

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Original) A composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte comprising:

- d) at least one polyorganosiloxane (POS) (A) exhibiting, per molecule, at least two C₂-C₆ alkenyl groups bonded to silicon and at least one group directly bonded to a silicon atom comprising a polyoxyalkylene (Poa) ether functional group;
- e) at least one polyorganosiloxane (POS) (B) exhibiting, per molecule, at least two hydrogen atoms bonded to silicon;
- f) a catalytically effective amount of at least one hydrosilylation catalyst (C); and
- g) at least one electrolyte salt (D).

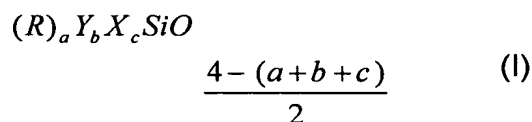
2. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 1, ~~characterized in that~~ wherein the proportions of the POS (A) and of the POS (B) are such that the ratio of the number of the hydrogen atoms bonded to silicon in the POS (B) to the number of alkenyl radicals contributed by the POS (A) is between 0.4 and 10.

3. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in ~~either of the~~

~~preceding claims Claim 1, characterized in that wherein~~ the polyoxyalkylene (Poa) ether functional group of the (POS) (A) is of polyoxyethylene ether and/or polyoxypropylene ether type.

4. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in ~~one of the preceding claims Claim 1, characterized in that wherein~~ the POS (A) is a polyfunctional POS comprising:

- a) per molecule, at least two alkenyl functional groups;
- b) at least two identical or different units of formula (I):



in which:

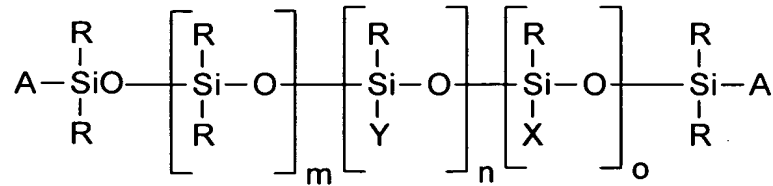
- the R symbols, which are identical or different, each represent a monovalent hydrocarbon group chosen from a linear or branched alkyl radical having from 1 to 6 carbon atoms, a cycloalkyl radical having from 5 to 8 carbon atoms, an alkoxyl radical and a phenyl radical;
- the Y symbols, which are identical or different, each represent an R¹-Poa group where the R¹ symbol represents a radical comprising from 2 to 50 carbon atoms and the Poa symbol represents a group of polyoxyalkylene ether type, ~~preferably of polyoxyethylene ether and/or polyoxypropylene ether type;~~

- the X symbols, which are identical or different, each represent C₂-C₆ alkenyl functional group bonded to silicon, ~~preferably vinyl or allyl~~;
 - the symbols a and b are identical or different numbers chosen from the values 0, 1, 2 or 3;
 - the c symbol is 0 or 1; and
 - the sum a + b + c being other than zero ≤ 3 ; and
- c) optionally at least one siloxyl unit of formula R_kSiO_{(4-k)/2}, the R symbol having the same definition as above and k being a number between 1 and 3.

5. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 4, ~~characterized in that~~ wherein the -R¹-Poa groups are chosen from the following groups:

-(CH₂)₃-O-(CH₂CH₂-O)_m-CH₃; -(CH₂)₂-O-(CH₂CH₂-O)_m-CH₃;
 -(CH₂)₃-O-(CH(CH₃)-CH₂-O)_m-CH₃ and -(CH₂)₂-O-(CH(CH₃)-CH₂-O)_m-CH₃
 with m ≤ 4 and ~~preferably between 6 and 12~~.

6. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in ~~one of the preceding claims~~ Claim 1, ~~characterized in that~~ wherein the POS (A) is an essentially linear random or block copolymer with the following mean general formula (II):



which can optionally comprise units of formula $\text{RSiO}_{3/2}$ (T), in which formula:

- the R symbols, which are identical or different, each represent a monovalent hydrocarbon group chosen from a linear or branched alkyl radical having from 1 to 6 carbon atoms, a cycloalkyl radical having from 5 to 8 carbon atoms, an alkoxyl radical and a phenyl radical;
- the Y symbols, which are identical or different, each represent an R^1 -Poa group where the R^1 symbol represents a radical comprising from 2 to 50 carbon atoms and the Poa symbol represents a group of polyoxyalkylene ether type, preferably polyoxyethylene and/or polyoxypropylene ether type;
- the X symbols, which are identical or different, each represent a C_2 - C_6 alkenyl functional group bonded to silicon, preferably vinyl or allyl;
- the A symbols, which are identical or different each represent an R symbol, an X symbol or a Y symbol, the said symbols having the same definitions as above;
- m is an integer or fractional number greater than or equal to 0;
- n is an integer or fractional number greater than or equal to 1; and
- o is an integer or fractional number greater than or equal to 2.

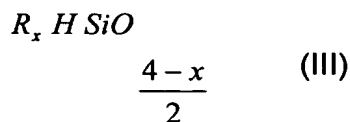
7. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 6, ~~characterized in that~~ wherein:

- m is an integer or fractional number greater than or equal to 0 and less than or equal to 200;
- n is an integer or fractional number greater than or equal to 1 and less than or equal to 200; and
- o is an integer or fractional number greater than or equal to 2 and less than or equal to 200.

8. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in ~~either of claims 6 and 7~~ Claim 6, ~~characterized in that~~ wherein the number of units carrying the alkenyl functional group X is chosen so that the alkenyl functional groups X represent a content, expressed as % with respect to the total weight of the POS (A), of between 0.5 and 5%.

9. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in ~~one of claims 1 to 5~~ Claim 6, ~~characterized in that~~ wherein the POS (B) comprises:

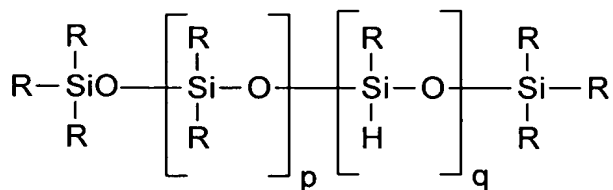
- a) at least two identical or different units of formula (III)



in which formula:

- the R symbols, which are identical or different, each represent a monovalent hydrocarbon group chosen from a linear or branched alkyl radical having from 1 to 6 carbon atoms, a cycloalkyl radical having from 5 to 8 carbon atoms and a phenyl radical; and
 - x is a number between 1 and 3 inclusive; and
- b) optionally at least one siloxyl unit of formula $R_k SiO_{(4-k)/2}$, the R symbol having the same definition as above and k being a number between 1 and 3.

10. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in ~~claims 1 to 5 or 9~~ Claim 1, characterized in that wherein the POS (B) is an essentially linear random or block copolymer with the following mean general formula (IV):



in which formula:

- the R symbols, which are identical or different, each represent a hydrogen, a monovalent hydrocarbon group chosen from a linear or branched alkyl

radical having from 1 to 6 carbon atoms, a cycloalkyl radical having from 5 to 8 carbon atoms, and a phenyl radical;

- p is an integer or fractional number greater than or equal to 0; and
- q is an integer or fractional number greater than or equal to 2 which can optionally be equal to 0, with the condition that, when q=0, then the two end M groups carry a hydrogen directly bonded to the silicon atom.

11. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in ~~one of the preceding claims~~ Claim 1, ~~characterized in that~~ wherein the electrolyte salt (D) is ~~composed~~ comprises:

- of a cation chosen from the group consisting of the following entities: metal cations, ammonium ions, amidinium ions and guanidinium ions; and;
- of an anion chosen from the group consisting of the following entities: chloride ions, bromide ions, iodide ions, perchlorate ions, thiocyanate ions, tetrafluoroborate ions, nitrate ions, AsF_6^- , PF_6^- , stearylsulfonate ions, trifluoromethanesulfonate ions, octylsulfonate ions, dodecylbenzenesulfonate ions, R^4SO_3^- , $(\text{R}^4\text{SO}_2)(\text{R}^5\text{SO}_2)\text{N}^-$ and $(\text{R}^4\text{SO}_2)(\text{R}^5\text{SO}_2)(\text{R}^6\text{SO}_2)\text{C}^-$; in each formula, the R^4 , R^5 and R^6 radicals are identical or different and represent electron-withdrawing groups.

12. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 11, ~~characterized in that~~ wherein the R^4 , R^5 and R^6 radicals are electron-withdrawing

groups of perfluoroaryl or perfluoroalkyl type, the perfluoroalkyl group comprising from 1 to 6 carbon atoms.

13. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 11, ~~characterized in that~~ wherein the electrolyte salt (D) comprises a metal cation chosen from alkali metals and alkaline earth metals of Groups 1 and 2 of the Periodic Table [~~Chem. & Eng. News, vol. 63, No. 5, 26, of February 4, 1985~~].

14. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 13, ~~characterized in that~~ wherein the electrolyte salt (D) comprises a metal cation of lithium type.

15. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 14, ~~characterized in that~~ wherein the amount of the electrolyte salt (D) is determined so that the O/Li molar ratio is between 15 and 40 ~~and preferably equal to 25~~.

16. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in ~~one of claims 1, 14 and 15~~ Claim 1, ~~characterized in that~~ wherein the electrolyte salt (D) is chosen from the group consisting of the following compounds:

LiClO₄, LiBF₄, LiPF₆, LiAsF₆, LiCF₃SO₃, LiN(CF₃SO₂)₂, Li(C₂F₅SO₂)₂ and a mixture of these compounds.

17. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 11, ~~characterized in that~~ wherein the metal cation is chosen from transition metals.

18. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 17, ~~characterized in that~~ wherein the metal cation is chosen from the group consisting of manganese, iron, cobalt, nickel, copper, zinc, calcium and silver.

19. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in ~~one of the preceding claims~~ Claim 1, ~~characterized in that~~ wherein it comprises an organic electrolyte (E).

20. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 19, ~~characterized in that~~ wherein the organic electrolyte (E) is chosen from the group consisting of the following compounds:
propylene carbonate, ethylene carbonate, diethyl carbonate, dimethyl carbonate, ethyl methyl carbonate, γ -butyrolactone, 1,3-dioxolane, dimethoxyethane, tetrahydrofuran, dimethyl sulfoxide and polyethylene glycol dimethyl ether.

21. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in ~~one of the preceding claims~~ Claim 1, ~~characterized in that~~ wherein the hydrosilylation catalyst (C) is based on platinum.

22. (Currently Amended) A polymer electrolyte for a battery obtained by polymerization and/or crosslinking by the polyaddition route, which polyaddition is optionally thermally activated, of a polymerizable and/or crosslinkable composition as claimed in ~~one of claims 1 to 2~~ Claim 1.

23. (Original) A polymer battery comprising a polymer electrolyte as claimed in Claim 22 positioned between an anode and a cathode.

24. (Currently Amended) The polymer battery as claimed in Claim 23, ~~characterized in that~~ wherein at least one of the constituents of the cathode is chosen from the group consisting of the following compounds:
lithium metal, lithium alloys, inorganic materials comprising lithium insertions and carbonate materials comprising lithium insertions.